

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A light source comprising:
a multimode semiconductor diode laser; and
a reflector having a three-dimensional pattern of refractive index variations within the reflector, the reflector being in optical communication with the semiconductor diode laser and aligned with an output beam of the diode laser, such that a portion of the light in the output beam is reflected back into the laser by the reflector.
2. (Original) The light source of claim 1, wherein the reflector is a volume diffractive grating.
3. (Currently Amended) The light source of claim 1, wherein the reflector ~~[[in]]~~ is an interference filter.
4. (Original) The light source of claim 1 where the reflector is a photonic bandgap crystal.
5. (Canceled)
6. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is in contact with a facet of the diode laser.

7. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector has a peak reflectivity that is greater than a reflectivity of an output facet of the diode laser.

8. (Canceled)

9. (Currently Amended) The light source of claim 7 ~~[[or 8]]~~, wherein the reflectivity of the output facet is less than about 50%.

10-12. (Canceled)

13. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is adapted to focus the output beam from the diode laser along a fast axis of the diode laser.

14. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is adapted for focusing the light from the diode laser along a slow axis of the diode laser.

15. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is adapted to enhance the gain of a desired lateral mode over the gain of other lateral modes to increase a brightness of the output beam.

16. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is adapted to enhance optical feedback to the diode laser in a desired optical mode relative to ~~undesired~~ other optical modes.

17. (Original) The laser source of claim 16, wherein the optical feedback from the reflector spatially shapes the output beam of the light source to have a square or Gaussian profile.

18. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector has a reflectivity spectral width that is less than 0.2 nm.

19. (Canceled)

20. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is adapted to provide selective feedback to the diode laser such that a single longitudinal mode is emitted from the light source.

21. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is adapted and arranged relative to the diode laser to provide selective feedback to the diode laser such that the sidemode suppression ratio in the light source is greater than -30dB.

22. (Canceled)

23. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the reflector is adapted and arranged relative to the diode laser to provide selective feedback to injection lock the wavelength of the output beam from the diode laser.

24. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, wherein the diode laser and the reflector are arranged in an external cavity configuration.

25. (Currently Amended) The light source of ~~any of claims 1-5 or 7-24~~ claim 1, further comprising a lens positioned between the diode laser and the reflector.

26. (Original) The light source of claim 25, wherein the lens is adapted for focusing the output beam from the diode laser along a fast axis of the diode laser.

27. (Canceled)

28. (Currently Amended) The light source of ~~any of the preceding claims~~ claim 1, further comprising multiple diode lasers aligned with respect to the reflector such that a portion of the light emitted from each of the diode lasers is reflected back into the diode laser from which the light is emitted.

29-34. (Canceled)

35. (Currently Amended) A light source comprising:
a first multimode semiconductor diode laser;
a first reflector having a three-dimensional pattern of refractive index variations within the reflector, the first reflector being in optical communication with the first semiconductor diode laser and aligned with an output beam of the first laser such that a portion of the output beam of the first laser is reflected back into the first laser by the first reflector;
a second multimode semiconductor diode laser;
a second reflector having a three-dimensional pattern of refractive index variations within the reflector, the second reflector being in optical communication with the second semiconductor diode laser and aligned with an output beam of the second laser such that a portion of the output beam of the second laser is reflected back into the second laser by the second reflector; and
a first beam combiner ~~adapted and arranged for combining~~ arranged to combine the output beams of the first laser and the second laser.

36. (Original) The light source of claim 35, wherein the first beam combiner is external to cavities formed by first diode laser and the first reflector and by the second diode laser and the second reflector.

37. (Currently Amended) The light source of claim 35 ~~[[or 36]]~~, wherein the first beam combiner is a reflector having a three-dimensional pattern of refractive index variations within the reflector.

38-39. (Canceled)

40. (Currently Amended) The light source of ~~any of claims 35-39~~ claim 35, wherein the output beams of the first laser and the second laser have different polarizations.

41. (Currently Amended) The light source of ~~any of claims 35-40~~ claim 35, wherein the output beams of the first laser and the second laser have different wavelengths.

42. (Canceled)

43. (Currently Amended) The light source of ~~any of claims 35-42~~ claim 35, further comprising:

a third semiconductor diode laser;

a third reflector having a three-dimensional pattern of refractive index variations within the reflector, the third reflector being in optical communication with the third semiconductor diode laser and aligned with an output beam of the third laser such that a portion of the output beam of the third laser is reflected back into the third laser by the third reflector; and

a second beam combiner arranged to combine ~~for combining~~ the output beams of the first laser and the third laser in parallel.